

Amendments to the Specification:

Please amend the specification as follows:

Please replace paragraph number 0094, with the following rewritten paragraph:

At the joint 23 for the neighboring connector for power feed, there is provided, in addition to the power feed terminal (power feed terminal portions 254b, 254d of internal conductor pieces 25b, 25d for power feed), an engaging ~~hole~~ slot 231 to be engaged with clip piece 221 and ~~[[a]]~~ an engaging slot 232 to which the columnar insertion piece 222 is inserted, arranged along the up/down direction. The engaging ~~hole~~ slot 231 has stepped portions 231a and 231b to receive and engage with the projections at the tip ends of clip piece 221, as shown in Fig. 6.

Please replace paragraph number 0095, with the following rewritten paragraph:

Neighboring connectors are electrically and mechanically connected with each other by means of the joint 22 for the neighboring connector for power reception of one connector and the joint 23 for the neighboring connector for power feed of the other connector. More specifically, the insertion piece 222 of one connector is inserted to the slot 232 of the other connector, and at the same time, the clip piece 221 of the one connector is inserted to the engaging ~~hole~~ slot 231 of the other connector, for coupling with each other. At this time, as the clip piece 221 is engaged with the engaging ~~hole~~ slot 231, the coupling between the connectors is secured.

Please replace paragraph number 0096, with the following rewritten paragraph:

More specifically, clip piece 221 and insertion piece 222 are the projections as mechanical structures for connection with the neighboring connector, and power reception terminal portions 253b and 253d are projections as electric structures for connection with the neighboring connector. Further, the engaging ~~hole~~ slot 231 and a slot ~~[[23~]]~~ 232 are the

recessed portions as the mechanical structures for connection with the neighboring connector, and ~~slots~~ engaging holes 233 and 234 having power feed terminal portions 254b and 254d therein, which will be described later, are recessed portions as electrical structures for connection with the neighboring connector.

Please replace paragraph number 0109, with the following rewritten paragraph:

Further, power conductor pieces 25b and 25d have power feed terminal portions 254b and 254d for the neighboring connector, for feeding power to the neighboring connector on the other side. Power feed terminal portions 254b and 254d are made resilient so as to establish pressure contact with power receiving terminal portions 253b and 253d of the neighboring connector from above, when connected to the neighboring connector. As shown in Fig. 5B, power feed terminal portions 254b and 254d are placed in ~~a slot~~ an engaging hole 233 provided within engaging ~~hole~~ slot 231 and slot 232 and in ~~slot~~ engaging hole 234 provided below slot 232, of the joint 23 for the neighboring connector for power feed, respectively. The line connecting terminal portions 252b and 252d of conductor pieces 25b and 25d are not used in the present embodiment.

Please replace paragraph number 0110, with the following rewritten paragraph:

With such a structure, when connected to the neighboring connector on the left side (closer to the main connector), the power receiving terminal portions 253b and 253d of sub connector 2 are in pressure contact from above with the power feed terminal portions 254b and 254d of the neighboring connector in ~~slots~~ engaging holes 233 and 234 of the neighboring connector, and thus electrically connected with each other.

Please replace paragraph number 0118, with the following rewritten paragraph:

As can be seen from Fig. 10A, on one side of front connector housing 30a, there is provided a joint 33 for the neighboring connector for power feed, as in the sub connector 2.

More specifically, engaging ~~hole~~ slot 331 and ~~[[a]]~~ engaging slot 332 for receiving the clip piece 221 and the inserting piece 222 of the neighboring sub connector 2 are provided along the up/down direction, and between the engaging ~~hole~~ slot 331 and slot 332, there is a ~~slot~~ an engaging hole 333 to which the power receiving terminal portion 253b of the neighboring sub connector 2 is inserted, and below the slot 332, there is the ~~slot~~ engaging hole 334 to which the power receiving terminal portion 253d is inserted. More specifically, the engaging ~~hole~~ slot 331 and slot 332 form recessed portions as mechanical structure for connection with the neighboring connector, and ~~slots~~ engaging holes 333 and 334 having the power feed terminals provided therein form recessed portions as electrical structure for connection with the neighboring connector.

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A main connector, having a connector body that can be detachably coupled to one of a plurality of sensor bodies arranged aligned and in contact with each other, and an electric cord including a power feed line; wherein said connector body includes:

a first joint for a sensor body, including a power feed terminal adapted for feeding power to an internal electric circuit of the sensor body, and a first connecting structure configured for mechanically and detachably fixing the first joint to the sensor body, the first connecting structure including an elastic projection portion;

a second joint for a neighboring connector, including a power feed terminal configured for feeding power to the neighboring connector, and a second connecting structure configured for mechanically and detachably fixing the second joint to the neighboring connector, the second connecting structure including an engaging slot, the engaging slot arranged in and passing through an endface of the second joint; and

an internal conductor for conducting the power fed through said electric cord to the power feed terminal included in said first joint and to the power feed terminal included in said second joint, inside the main connector.

2. (Original) The main connector according to claim 1, wherein the second joint further comprises an engaging hole, the engaging hole arranged in the endface of the second joint.

3. (Currently Amended) The main connector according to claim [[2]] 1, wherein the engaging ~~hole~~ slot comprises stepped portions arranged in the engaging ~~hole~~ slot.

4. (Original) The main connector according to claim 1, wherein said electric cord introduced to said main connector includes, in addition to the power feed line, one or two or more signal lines, said first joint for the sensor body of said connector body includes a corresponding number of signal terminals, and an internal conductor coupling respective ones

of the signal lines of said electric cord to the corresponding signal terminals of said first joint for the sensor body is provided in said connector body.

5. (Original) The main connector according to claim 1, wherein said second joint for the neighboring connector of said connector body is provided only on one side surface, and no joint exists on the other side surface.

6. (Original) The main connector according to claim 1, wherein a connecting structure for establishing mechanical and electrical connections with a neighboring connector is provided at said second joint for the neighboring connector of said connector body; and the connecting structure has a recessed portion receiving a projecting portion of a neighboring connector, and is free of any projecting portion protruding toward a neighboring connector.

7. (Original) A sub connector, having a connector body that can be detachably coupled to one of a plurality of sensor bodies arranged on, and substantially completely above, a rail, said connector body including:

- a first joint for a sensor body, including a power feed terminal adapted for feeding power to the internal electric circuit of said sensor body;

- a second joint for a first neighboring connector, including a power receiving terminal for receiving power from one neighboring connector;

- a third joint for a second neighboring connector, including a power feed terminal for feeding power to the other neighboring connector; and

- an internal conductor for conducting the power received through the power receiving terminal included in said second joint, to the power feed terminal included in said first joint and to the power feed terminal included in said third joint, inside the sub connector, and

- wherein the first, second and third joints are arranged at a level above the rail when the connector body is coupled to the sensor body.

8. (Original) The sub connector according to claim 7, wherein

a connecting structure for establishing mechanical and electrical connections with a neighboring connector is provided at said second joint for the first neighboring connector and said third joint for the second neighboring connector;

the connecting structure of said second joint for the first neighboring connector has a projecting portion protruding toward a connector neighboring said second joint for the first neighboring connector; and

the connecting structure of said third joint for the second neighboring connector has a recessed portion receiving the projecting portion of a neighboring connector, and is free of any projecting portion protruding toward a neighboring connector.

9. (Cancelled)

Amendments to the Drawings:

The drawing sheet or sheets attached in connection with the above-identified application containing Figures 10A and 10B are being presented as a new formal drawing sheet or sheets to be substituted for the previously submitted drawing sheet or sheets. The drawing figure 10A has been amended. Appended to this amendment is an annotated copy of the previous drawing sheet which has been marked to show changes presented in the replacement sheet of the drawing.

The specific change which has been made to Figure 10A is to remove a portion of the component shown in the upper left hand corner.